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Self-Reported Mental and Physical Health Symptoms and Potentially Traumatic Events Among Lesbian, Gay, Bisexual, Transgender, and Queer Individuals: The Role of Shame

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Abstract

Objective: Lesbian, gay, bisexual, transgender, and queer (LGBTQ) individuals disproportionately face exposure to potentially traumatic events—adverse experiences that may have a traumatizing effect—and experience shame as a common consequence. Previous research demonstrates associations between shame and psychological and physical health issues among those with exposure to potentially traumatic events in general, with limited attention among LGBTQ individuals specifically. This study determined whether shame partially mediated the relationship between potentially traumatic events exposure and self-reported mental and physical health symptoms among LGBTQ individuals.

Method: Participants were 218 self-identified LGBTQ individuals who reported experiencing at least one potentially traumatic event (e.g., childhood sexual abuse). Online surveys assessed the type and frequency of potentially traumatic events exposure, shame, self-reported mental health (depression symptoms, posttraumatic stress disorder symptoms, and substance use), and physical health symptoms (sexual risk behavior, somatic symptoms, and chronic health conditions).

Results: Greater potentially traumatic events exposure was associated with greater shame, and greater shame was associated with worse self-reported mental and physical health. Potentially traumatic events exposure had a direct effect on self-reported mental and physical health, and shame partially mediated this relationship.

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Conclusion: Shame represents an important and modifiable factor that relates to poor health and may be amenable to change through psychosocial interventions. Given the prevalence of negative self-attribution stemming from potentially traumatic events exposure, in addition to the internalization of stigma among this population, practitioners need to uncover interventions specifically targeting shame when working with LGBTQ individuals.

Keywords

potentially traumatic events; LGBTQ; shame; health

Lesbian, gay, bisexual, transgender, and queer (LGBTQ) individuals disproportionately experience potentially traumatic events, defined as adverse experiences that may have a traumatizing effect, such as childhood sexual abuse, and subsequent mental health (e.g., posttraumatic stress disorder [PTSD]) and physical health issues (e.g., migraines; Mimiaga et al., 2009). LGBTQ disparities in trauma over the life course exist partly as a function of social and structural stigma (Roberts, Austin, Corliss, Vandermorris, & Koenen, 2010). Shame represents one mechanism that may explain the association between potentially traumatic events exposure and posttrauma health issues (Harman & Lee, 2010). Specifically, shame is an affective and cognitive state marked by negative self-judgment stemming from an actual or perceived transgression of social norms (Saraiya & Lopez-Castro, 2016). Moreover, shame serves as a critical area to explore in LGBTQ people given their heightened exposure to violence and stigma-related stress (Meyer, 2003). Nevertheless, few studies examine the potential mediating role of shame on the relationship between potentially traumatic events exposure and mental and physical health among LGBTQ individuals. As such, the present study examined these associations to bolster current literature in this area.

As stated earlier, LGBTQ individuals experience greater instances of numerous types of violence, including intimate partner violence, sexual assault, and bias-based victimization, compared with cisgender heterosexual individuals (Austin, Roberts, Corliss, & Molnar, 2008; Saewyc et al., 2006). According to the Centers for Disease Control's National Intimate Partner Violence and Sexual Violence Survey, sexual minority women report a higher likelihood of intimate partner violence and sexual violence exposure than heterosexual women (Walters, Chen, & Breiding, 2013). Another study using a representative sample estimated that 26.9% of gay men experienced intimate partner violence during the past year (Goldberg & Meyer, 2013). Further, other research indicates that individuals with a minority sexual identity report greater frequency, severity, and persistence of childhood physical and sexual abuse (Corliss, Cochran, & Mays, 2002). For example, 31.8%–44.1% of gay and bisexual men report childhood sexual abuse compared with 12.8% of heterosexual men (Balsam, Rothblum, & Beauchaine, 2005). Relevant to specific subgroups of the LGBTQ population, results from the National Intimate Partner and Sexual Violence Survey (2010) suggest that bisexual individuals report a higher likelihood of sexual violence and intimate partner violence exposure than heterosexual and lesbian individuals (Walters et al., 2013).

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Although few studies have documented gender disparities in potentially traumatic events exposure between cisgender sexual minority individuals and transgender and gender-nonconforming (TGNC) individuals, emerging literature suggests that TGNC individuals contend with higher rates of intimate partner violence exposure than cisgender LGB individuals (Langenderfer-Magruder, Whitfield, Walls, Kattari, & Ramos, 2016). Further, the National Coalition of Anti-Violence Programs (2005) found that TGNC individuals face heightened risk of severe hate crimes (Patton & Baum, 2007). Overall, scholars point to LGBTQ individuals' increased risk of potentially traumatic events for several reasons: (a) LGBTQ individuals may exhibit gender-nonconforming behaviors, which may increase their likelihood of victimization, (b) many LGBTQ people experience interpersonal violence directly related to their marginalized identity, for example, hate crimes, and (c) many LGBTQ individuals attempt to cope with these experiences by engaging in risk behaviors (e.g., substance use), further increasing their risk for violence (Gold, Dickstein, Marx, & Lexington, 2009).

Burgeoning research links LGBTQ health disparities to potentially traumatic events exposure (Cahill & Makadon, 2014). For instance, several studies demonstrate associations between potentially traumatic events exposure and HIV-related sexual risk behavior primarily among men who have sex with men and transgender women (Mimiaga et al., 2015; Parsons, Antebi-Gruszka, Millar, Cain, & Gurung, 2018). Another study documented that LGB individuals with exposure to potentially traumatic events reported elevated rates of PTSD symptoms compared with cisgender heterosexual individuals with similar rates of trauma exposure (Roberts et al., 2010). Research also documents a stronger association between exposure to interpersonal potentially traumatic events (e.g., assaults) and mental health outcomes, including depression symptoms and shame, than impersonal potentially traumatic events (e.g., natural disasters; Fowler, Allen, Oldham, & Frueh, 2013; La Bash & Papa, 2014). This finding may reflect the differential impact of interpersonal potentially traumatic events exposure on psychological factors, such as attachment and sense of betrayal (La Bash & Papa, 2014). Moreover, bidirectional associations may exist between mental health and physical health issues (Cochran & Mays, 2007), yet most research has separately assessed LGBTQ individuals' mental and physical distress. To this end, this study assessed whether potentially traumatic events exposure directly relates to self-reported mental and physical health outcomes as separate outcomes in the same model.

Trauma and Shame

Previous research primarily among heterosexual women suggests that those with exposure to interpersonal forms of trauma (e.g., rape or molestation) report greater shame-proneness (Andrews, Brewin, Rose, & Kirk, 2000). Shame represents a psychological state involving global negative evaluation of the self in which the individual feels inferior, helpless, vulnerable, and desires to hide (Duncan & Cacciatore, 2015). Following potentially traumatic events exposure, shame registers perceived or real rejection, which then becomes internalized in the form of a negative cognitive style, distorted locus of control, poor self-efficacy, and self-criticism (Budden, 2009) and can involve major changes in physiological states (Andrews et al., 2000). Shame remains pervasive and intense following trauma exposure, as many people attribute trust and boundary violations to their own perceived

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flaws (Platt & Freyd, 2012). In this way, shame may reflect a short-term strategy to prevent future abuse and invalidation by triggering self-monitoring, self-blaming, and submissive responses (Cunha, Matos, Faria, & Zagalo, 2012). Over time, however, shame can disrupt cognitive processes, emotional stability, and interpersonal relationships (Kennedy et al., 2012) and can limit mobilization toward self-protective action by reinforcing a sense of ongoing threat (Hartling, Rosen, Walker, & Jordan, 2004). Shame also prompts social withdrawal and avoidance, which may reinforce the social exclusion that initially activated the experience of shame (Gramzow & Tangney, 1992). Moreover, those with potentially traumatic events exposure who experience shame also devalue their physical and psychological safety, placing them at risk for further victimization (Mendelsohn, Zachary, & Harney, 2007).

Shame may be socially reinforced for LGBTQ individuals who regularly experience social exclusion or threats thereof (e.g., denial of civil rights, ongoing harassment, invisibility). As LGBTQ individuals develop within a heterosexist and cissexist context, many internalize negative messages and attitudes about their identities, of which the stigmatization of potentially traumatic events such as rape may accentuate (Straub, McConnell, & Messman-Moore, 2018). Interpersonal violence exposure may confer risk of shame among LGBTQ individuals, as this population contends with internalized blame resulting from traumatic experiences marked by betrayal or violation as well as their stigmatized identity (Mohr & Fassinger, 2006). Taken together, shame is marked by feelings of inferiority and powerlessness that are directly tied to social ostracism and trauma (Taylor, 2015), further highlighting the importance of examining shame among LGBTQ individuals with potentially traumatic events exposure.

The Relationship Between Shame and Health

Shame directly connects what happens in the body politic to the body of the individual. Conceptual and meta-analytic studies point to shame in contributing to mental health (e.g., depression; Holl et al., 2017) and physical health outcomes (e.g., increased cortisol levels; Dickerson, Gruenewald, & Kemeny, 2004) following potentially traumatic events exposure. Feelings of shame often co-occur with psychological and physiological responses including increases in cortisol and proinflammatory cytokine activity, all of which may contribute to depression, PTSD, inflammation, and cardiovascular disease (Dickerson et al., 2004). Current PTSD models in the *Diagnostic and Statistical Manual of Mental Disorders*, *Fifth Edition* (*DSM–5*; American Psychiatric Association, 2013), highlight the role of shame in the development and maintenance of PTSD symptoms (e.g., negative cognitions and mood; Budden, 2009). Although shame relates to PTSD symptoms (e.g., avoidance), it remains unclear whether shame conceptually overlaps with the construct of PTSD, is a predisposing factor to PTSD, or a result of PTSD (Gaudet, Sowers, Nugent, & Boriskin, 2016) among LGBTQ individuals.

Hatzenbuehler's (2009) psychosocial mediation model posits that for LGBTQ individuals, internalized stigma-related stressors, including shame, mediate the relationship between discrimination experiences and mental health. Studies demonstrate that increased levels of shame related to a marginalized sexual or gender identity predict greater engagement in

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substance use (Weber, 2008). Although fewer studies document the adverse impact of shame on physical health among this population, some research suggests that shame contributes to physical distress (e.g., back pain, headaches) among sexual minorities (Mereish & Poteat, 2015). In the present study, we build on these findings by including shame as a potential mediator of the relationship between potentially traumatic events exposure and self-reported mental and physical health issues among LGBTQ individuals.

The Current Study

Given the diversity of the LGBTQ community, and building on feminist and intersectionality scholarship that documents differential experiences based on social location (see Meyer, 2010), it is critical to examine differences in potentially traumatic events exposure, shame, and health among LGBTQ subgroups (e.g., comparing experiences between LGBTQ people of color and White LGBTQ people). Nevertheless, extant research primarily focuses on White gay men, overlooking the experiences of lesbian women, TGNC people, and LGBTQ people of color (Roberts et al., 2010). In addition, research among sexual minority women suggests that those with a nonmonosexual identity (e.g., bisexual) report more childhood abuse and worse mental health than those with a monosexual identity (e.g., lesbian; Persson, Pfaus, & Ryder, 2015). Among those focusing on TGNC individuals with potentially traumatic events exposure, many do not compare the experiences of TGNC individuals and cisgender LGB individuals (Reisner et al., 2016). To this end, this study aims to provide preliminary evidence of disparities in potentially traumatic events exposure, shame, and health outcomes between LGBTQ people of color and White LGBTQ people, between those with a nonmonosexual identity and those with a monosexual identity, and between TGNC individuals and cisgender male and female individuals. This information could help to clarify specific interventions targeting the most vulnerable subgroups of LGBTQ individuals with potentially traumatic events exposure.

Bivariate Correlations (Hypotheses 1–2)

Hypothesis 1: Based on extant literature (Roberts et al., 2010; Shipherd, Maguen, Skidmore, & Abramovitz, 2011), this study considered the associations between interpersonal and impersonal potentially traumatic events exposure, shame, depression symptoms, PTSD symptoms, substance use, chronic health conditions, sexual risk behavior, and somatic symptoms. Specifically, interpersonal and impersonal potentially traumatic events exposure and shame were hypothesized to have a positive association (Hypothesis 1a), and interpersonal and impersonal potentially traumatic events exposure were hypothesized to have a positive association with self-reported depression symptoms (Hypothesis 1b), PTSD symptoms (Hypothesis 1c), substance use (Hypothesis 1d), chronic health conditions (Hypothesis 1e), sexual risk behavior (Hypothesis 1f), and somatic symptoms (Hypothesis 1g). *Hypothesis 2*: Building on previous research (Holl et al., 2017), this study hypothesized that shame would have a positive association with self-reported depression symptoms (Hypothesis 2a), PTSD symptoms (Hypothesis 2b), substance use (Hypothesis 2c), chronic health conditions (Hypothesis 2d), sexual risk behavior (Hypothesis 2e), and somatic symptoms (Hypothesis 2f).

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Basic Group Comparisons (Hypothesis 3)

Hypothesis 3: This study hypothesized that LGBTQ people of color would report greater potentially traumatic events exposure, shame, and self-reported mental and physical health symptoms than White LGBTQ people (Hypothesis 3a; Meyer, 2010; Reisner et al., 2016). Also, this study hypothesized that those with a nonmonosexual identity would report greater potentially traumatic events exposure, shame, and self-reported mental and physical health symptoms than those with a monosexual identity (Hypothesis 3b; Persson et al., 2015). Additionally, this study hypothesized that TGNC individuals would report greater potentially traumatic events exposure, shame, and self-reported mental and physical health symptoms than cisgender individuals (Hypothesis 3c). This study also hypothesized that LGBTQ individuals would have greater exposure to interpersonal than impersonal potentially traumatic events (Hypothesis 3d; Fowler et al., 2013).

Mediation Analyses (Hypothesis 4)

Hypothesis 4: This study hypothesized that potentially traumatic events exposure would have a direct effect on self-reported mental and physical health (Hypothesis 4a). Based on previous work (Dickerson et al., 2004), this study hypothesized that shame would mediate the relationship between potentially traumatic events exposure and self-reported mental health and physical health symptoms (Hypothesis 4b).

Method

Participants

Eligibility criteria for this current study included the following: (a) reporting having experienced at least one potentially traumatic event over the course of the life span, (b) being 18 or older, and (c) self-identifying as LGBTQ. Participants were 218 self-identified LGBTQ adults ages 18 to 78 (M_{age} = 27.95, SD = 9.70; 39.9% TGNC; 23.9% bisexual; 60.1% White). All heterosexuals also identified as transgender and so were included in the analyses. Full demographic information is presented in Table 1. Sexual orientation groups were collapsed into the following categories: (a) monosexual (e.g., lesbian, gay; 35.8%) and (b) nonmonosexual (e.g., queer, pansexual; 64.2%). Gender identity groups were collapsed into the following categories: (a) cisgender male (11.5%), cisgender female (48.6%), and (b) TGNC (39.9%). Finally, racial/ ethnic groups were collapsed into the following categories: (a) White (60.1%) and (b) people of color (39.9%).

Procedure

Participants were recruited from over 100 LGBTQ-specific online listservs (e.g., Consortium of Higher Education LGBT Resource Professionals), as well as those focused on trauma (e.g., Commission on Domestic and Sexual Violence), or some combination (e.g., The Network/La Red). A secure online data collection tool (Qualtrics) was used to collect survey responses. All potential participants received written instructions directing them to a link to access the survey website where they viewed the consent form and chose to participate in the study. The consent form contained the study's purpose, which was to better understand the experiences and overall health of LGBTQ individuals. Participants were told that if they

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agreed to participate, they would be asked about a range of hurtful behaviors that they may have experienced and their mental and physical health. The survey took ~30–45 min to complete. Participants elected to be compensated for survey completion by entering themselves into a raffle to win one of 15 $10, 10 $20, or three $50 Amazon gift cards. Study protocols were approved by the host institution's institutional review board.

Measures

Demographics.—Participants reported their current age, sexual orientation, gender identity, race/ethnicity, and ability to pay bills as a proxy for socioeconomic status (SES; see Table 1 for response options and sample characteristics). Sexual orientation identity was assessed with the following question, "What is your current sexual orientation identity?" Gender identity was assessed with the following question, "What is your current gender identity?" Race/ethnicity was assessed with the following question, "What is the best way to describe your race or ethnicity?" SES was assessed with the following question, "Currently, what is your ability to pay bills?"

Potential traumatic events exposure.—The 13-item Stressful Life Events Screening Questionnaire (Goodman, Corcoran, Turner, Yuan, & Green, 1998) assesses for lifetime exposure to Criterion A stressors associated with PTSD *DSM–IV* diagnosis (events involving actual or threatened death or serious injury to self or others; American Psychiatric Association, 1994). The Stressful Life Events Screening Questionnaire contained the following items: (1) Have you ever had a life-threatening illness? (2) Were you ever in a life-threatening accident? (3) Was physical force or a weapon ever used against you in a robbery or mugging? (4) Has an immediate family member, romantic partner, or very close friend died because of accident, homicide, or suicide? (5) At any time, has anyone (parent, other family member, romantic partner, stranger or someone else) ever physically forced you to have intercourse, or to have oral or anal sex against your wishes, or when you were helpless, such as being asleep or intoxicated? (6) Other than experiences mentioned in earlier questions, has anyone ever touched private parts of your body, made you touch their body, or tried to make you have sex against your wishes? (7) When you were a child, did a parent, caregiver or other person ever slap you repeatedly, beat you, or otherwise attack or harm you? (8) As an adult, have you ever been kicked, beaten, slapped around or otherwise physically harmed by a date, intimate partner, family member, stranger, or someone else? (9) Has a parent or family member repeatedly ridiculed you, put you down, ignored you, or told you that you were no good? (10) Other than the experiences already covered, has anyone ever threatened you with a weapon like a knife or gun? (11) Have you ever been present when another person was killed? Seriously injured? Sexually or physically assaulted? (12) Have you ever been in any other situation where you were seriously injured or your life was in danger (e.g., involved in military combat or living in a war zone)? and (13) Have you ever been in any other situation that was extremely frightening or horrifying, or one in which you felt extremely helpless, that you haven't already reported? Response options included 1 (*no*), 2 (*yes*, *once*), and 3 (*yes*, *multiple times*) and only assessed for lifetime exposure. The Stressful Life Events Screening Questionnaire does not include LGBTQ-specific forms of violence or victimization. The Stressful Life Events Screening Questionnaire has good test–retest reliability and convergent validity (Goodman et al., 1998). To our knowledge, this

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measure has been used with people of color with potentially traumatic events exposure (Ghafoori, Barragan, Tohidian, & Palinkas, 2012), and an adapted version has been used with LGBTQ people (Austin et al., 2016). Total scores were computed by summing all items and two subscale scores were computed by summing items for interpersonal (e.g., attempted or actual physical, sexual, or weapons assault/abuse) and impersonal potentially traumatic events exposure (e.g., life-threatening accident or illness, sudden loss of a loved one, witnessing a trauma, being in other dangerous/life-threatening events such as war), as suggested by Elhai and Simons (2007). Higher total scale scores indicated greater exposure to potentially traumatic events. The internal consistency estimate was α = .80 for the total scale score, α = .72 for the Impersonal Potentially Traumatic Events Exposure A, and α = .70 for the Interpersonal Potentially Traumatic Events Exposure Scale for the current study.

Shame.—Feelings of shame over the past year were measured with the 10-item Shame subscale of the Personal Feelings Questionnaire-2 (Harder & Zalma, 1990). The Personal Feelings Questionnaire-2 represents an adjective-based checklist measure of trait-related shame. Participants reported the frequency with which they experienced shame-based devaluations of the global self over the past year (e.g., "embarrassed" and "self-consciousness"; Harder & Zalma, 1990). Response options ranged from 0 (*never experience the feeling*) to 3 (*experience the feeling continuously or almost continuously*). The Personal Feelings Questionnaire-2 Shame scale has been used with LGB individuals (Mereish & Poteat, 2015) and those with domestic violence (Shin, Cho, Lee, & Chung, 2014). The Personal Feelings Questionnaire-2 Shame scale has high internal consistency (α = .91; Mereish & Poteat, 2015; Shin et al., 2014). A mean score was computed and higher average scale scores indicated greater shame. The internal consistency estimate was α = .90 for the current study.

Depression symptoms.—The nine-item Patient Health Questionnaire (Kroenke, Spitzer, & Williams, 2001) assessed self-reported depression symptoms over the past 2 weeks. Response options ranged from 0 (*not at all*) to 3 (*nearly every day*). The nine-item Patient Health Questionnaire has high internal consistency (α = .79 to α = .92; Adewuya, Ola, & Afolabi, 2006) and has been used with sexual minorities with potentially traumatic events exposure (Lehavot & Simpson, 2014). A total score was computed by summing the items, and higher total scale scores represented greater depression symptoms. The internal consistency estimate was α = .89 for the current study.

Posttraumatic stress disorder symptoms.—The 17-item PTSD Checklist–Civilian Version (PCL-C) assessed self-reported symptoms of PTSD that correspond to the *DSM–IV* over the past 30 days (American Psychiatric Association, 1994; Weathers, Litz, Herman, Huska, & Keane, 1993). Response options ranged from 1 (*not at all)* to 5 (*extremely*). The internal consistency for the PCL-C was acceptable in 14 studies (see Wilkins, Lang, & Norman, 2011). The PCL-C has been used with sexual minority women with potentially traumatic events exposure (Dworkin et al., 2018). Given that Macleod, Bauer, MacKay, Robinson, and Ross (2015) found issues with the PCL-C among bisexual respondents, we assessed whether this measure was reliable among this subgroup, as this was our biggest

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identity group in the sample, and found adequate reliability (α = .73). A total score was computed by summing the items, and higher total scale scores represented greater self-reported PTSD symptoms. The internal consistency estimate was α = .93 for the current study.

Substance use.—Participants reported on the use of the following substances during the past 6 months: tobacco, alcohol, marijuana, cocaine, stimulants, pain pills, heroin, and hallucinogens. Similar items were assessed among LGBTQ populations in previous research with adequate reliability (α = .82; Scheer & Antebi-Gruszka, 2019). Response options ranged from 0 (*never*) to 5 (*every day*). A dichotomous item was created for whether a particular substance was used (0 = *no*, 1 = *yes*), and an index of substance use was computed by summing the total number of substances used during the past 6 months, as recommended by Huebner, Thoma, and Neilands (2015). The internal consistency estimate was α = .75 for the current study.

Sexual risk behavior.—Sexual risk behavior over the past month was assessed with one item measuring individuals' self-reports of the frequency of unprotected sex with casual partners without knowing the person's HIV/sexually transmitted infection (STI) status, a common and reliable indicator of sexual risk behavior among sexual minority men (Díaz, Ayala, & Bein, 2004; Parsons, Grov, & Golub, 2012). Response options were on a 6-point scale ranging from 0 to 5 or more, with higher values on this single item indicating greater sexual risk behavior. This labeling of sexual risk avoids classifying unprotected intercourse between monogamous or primary partners as a sign of sexual risk (Díaz et al., 2004).

Chronic health conditions.—Chronic health conditions over the past year were assessed for nine conditions: migraines, respiratory problems, HIV/STIs, diabetes, heart attack(s), hypertension, arthritis, visual or hearing impairment, and stomach or gall bladder trouble (Lown & Vega, 2001). Response options were 0 (*no*) and 1 (*yes*). These items have been used with sexual minorities with adequate reliability (Lown & Vega, 2001). The item assessing for HIV/STIs was added given emerging research on HIV/STIs among LGBT individuals with potentially traumatic events exposure (Heintz & Melendez, 2006). A mean score was computed and higher average scale scores represented greater chronic health conditions. The internal consistency estimate was α = .63 for the current study. The reliability estimate did not improve after dropping any items.

Somatic symptoms.—The seven-item Somatization Subscale of the Brief Symptom Inventory (Derogatis, 1993) assessed for somatic symptoms over the past week with response options ranging from 0 (*not at all*) to 4 (*extremely*). The Brief Symptom Inventory (Derogatis, 1993) has been used with sexual minorities with sexual trauma exposure with adequate reliability (α = .75 to α = .88; Derogatis, 2000; Heidt, Marx, & Gold, 2005). A mean score was computed, and higher average scale scores represented greater somatic symptoms. The internal consistency estimate was α = .83 for this study.

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Data Analysis

There was minimal to moderate missing data across the measures (from 6.7% to 25.1%). Missing values were imputed using SPSS Version 24 with plausible simulated values based on the actual data, which is preferable over list-wise deletion or mean substitution (Schlomer, Bauman, & Card, 2010). According to Bentler and Chou (1987), 10 observations are needed per estimated parameter for a sufficient sample size for structural equation modeling. Given that this study had 218 participants, there was adequate power for structural equation modeling. Frequency and percentage of each type of potentially traumatic event are presented in Table 1. Statistical significance was determined at the alpha .05 level. Pearson's *r* correlations were conducted to determine bivariate relationships. Three multivariate analysis of variance (MANOVA) tested for sexual orientation, gender identity, and race/ethnicity differences. Bonferroni post hoc comparisons were made for variables wherein follow-up MANOVA and ANOVA were significant. Additionally, a paired samples *t* test was conducted to examine mean differences between interpersonal and impersonal forms of potentially traumatic events exposure among LGBTQ individuals.

Mplus Version 8.1 was used to test the hypothesized model using full information maximum likelihood estimation. The comparative fit index (CFI), Tucker–Lewis Index (TLI), standardized root-mean-square residual (SRMR), and root-mean-square error of approximation (RMSEA) and its 90% confidence interval (CI) assessed the goodness of fit of the measurement and structural models to the data. Values of at least .90 for the CFI and TLI indicate that the model is a good fit to the data (Kline, 1998), and SRMR and RMSEA values of .08 or lower are acceptable (Hu & Bentler, 1999). The latent Potentially Traumatic Events factor was indicated by interpersonal and impersonal forms of potentially traumatic events exposure, as suggested by Elhai and Simons (2007). The latent mediator (shame) was indicated by three parcels of items from the scale used to assess the respective construct, which can improve reliability and minimize violations of multivariate normality assumptions (Little, Cunningham, Shahar, & Widaman, 2002). Parcels were computed using the item-to-construct balance approach (Little et al., 2002). The Mental Health factor was indicated by depression symptoms, PTSD symptoms, and substance use, and the Physical Health factor was indicated by sexual risk behavior, chronic health conditions, and somatic symptoms.

For the measurement model, covariances among factors were free to be estimated and measurement errors were not allowed to correlate. Each indicator (i.e., parcel or subscale) was constrained to load on its respective factor. Some methodologists suggest that covarying residuals of endogenous variables are permitted if a correlation is desired (Kenny, 2011). Therefore, the residuals of the latent health factors were allowed to covary to represent the association between mental and physical health symptoms, and substance use was allowed to covary with sexual risk behavior, as these associations were significant at the bivariate level.

The proposed latent model was then tested to assess whether shame mediated the relationship between potentially traumatic events exposure and mental and physical health symptoms, with age and SES included as control variables in predicting shame, and mental and physical health symptoms. Finally, bias-corrected bootstrapping procedures were used

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to calculate indirect effect estimates with 95% CIs from 1,000 samples from the original data set.

Results

Bivariate Correlations Among Study Variables (Hypotheses 1–2)

Bivariate associations are reported in Table 2. Hypotheses 1a–e and 1g were supported, as impersonal and interpersonal potentially traumatic events exposure were positively correlated with shame, self-reported depression symptoms, PTSD symptoms, substance use, chronic health conditions, and somatic symptoms. Hypothesis 1f was partially supported, as impersonal potentially traumatic events exposure was positively correlated with sexual risk behavior. Interpersonal potentially traumatic events exposure was not correlated with sexual risk behavior. Hypotheses 2a–f were supported, as shame was positively correlated with self-reported depression symptoms, PTSD symptoms, substance use, sexual risk behavior, and somatic symptoms.

Comparisons Across Race/Ethnicity, Gender Identity, and Sexual Orientation (Hypothesis 3)

MANOVA using SPSS Version 24 tested for race/ethnicity, gender identity, and sexual orientation differences on the set of covariates and the observed variables used in the hypothesized latent model. There was a significant effect for race/ethnicity, Wilks' $\Lambda = .90$, $F(9, 208) = 2.51$, $p < .01$, $\eta_p^2 = .10$, and gender identity, Wilks' $\Lambda = .77$, $F(18, 414) = 3.26$, $p < .001$, $\eta_p^2 = .12$, but not for sexual identity. Consistent with our Hypothesis 3a, Bonferroni post hoc comparisons indicated that LGBTQ individuals who identified as people of color reported greater exposure to interpersonal forms of potentially traumatic events ($M = 5.85$) and shame ($M = 2.53$) than LGBTQ individuals who identified as White ($M = 4.71$, $M = 2.35$, respectively). Consistent with our Hypothesis 3c, TGNC individuals reported greater exposure to interpersonal potentially traumatic events ($M = 5.83$) and impersonal ($M = 3.83$) potentially traumatic events, and somatic symptoms ($M = 2.17$) than cisgender male individuals ($M = 4.28$, $M = 2.20$, $M = 1.72$, respectively) and cisgender female individuals ($M = 4.54$, $M = 1.92$, $M = 1.94$, respectively). TGNC individuals also reported greater depression symptoms ($M = 2.54$), PTSD symptoms ($M = 2.96$), and lower SES ($M = 3.29$) than cisgender female individuals ($M = 2.28$, $M = 2.64$, $M = 2.60$, respectively). An exploratory analysis revealed that most LGBTQ participants reported childhood molestation (72.9%), followed by emotional abuse during childhood (69.3%) and rape in adulthood (61.0%; see Table 1). Consistent with our Hypothesis 3d, there was a significant difference in the scores for type of exposure to potentially traumatic events, with most participants reporting exposure to interpersonal potentially traumatic events.

Mediation Analysis (Hypothesis 4)

The measurement model was a good fit to the data (CFI = .97; TLI = .94; SRMR = .05; RMSEA = .07, 90% CI [.05, .09]). The latent factor measuring potentially traumatic events exposure had high standardized loadings for impersonal ($\lambda = .70$) and interpersonal forms of potentially traumatic events exposure ($\lambda = .84$). Similarly, the latent factor measuring shame

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had strong standardized loadings for Parcel 1 (λ = .92), Parcel 2 (λ = .89), and Parcel 3 (λ = .87). The latent factor measuring mental health had adequate factor loadings for depression (λ = .55), PTSD (λ = .60), and substance use (λ = .41). Finally, the latent factor measuring physical health had adequate factor loadings for sexual risk behavior (λ = .30), chronic health conditions (λ = .46), and somatic symptoms (λ = .73).

The latent model was a good fit to the data (CFI = .93; TLI = .90; SRMR = .07; RMSEA = .08, 90% CI [.07, .10]). Figure 1 includes all path coefficients for the structural model. As hypothesized and reported in Table 3, potentially traumatic events exposure was associated with greater shame, and greater shame was associated with greater self-reported mental health and physical health symptoms. As hypothesized, the direct effect of potentially traumatic events on self-reported mental and physical health outcomes was significant (Hypothesis 4a). As predicted, shame partially mediated the relationship between potentially traumatic events and self-reported mental health and physical health symptoms (Hypothesis 4b).

Discussion

LGBTQ individuals represent one of the most vulnerable groups at risk for potentially traumatic events exposure across the life span and associated mental and physical health consequences (Roberts et al., 2010; Shipherd et al., 2011). Emerging research points to shame as a key contributor to the onset and maintenance of health issues among those with potentially traumatic events exposure (Leskela, Dieperink, & Thuras, 2002). The current study examines the association between shame and self-reported mental and physical health symptoms among various subgroups of the LGBTQ community with potentially traumatic events exposure. Our findings suggest that potentially traumatic events exposure was associated with greater shame, and greater shame was associated with worse self-reported mental and physical health symptoms. There was a significant direct effect of potentially traumatic events on mental and physical health symptoms (Hypothesis 4a). Further, findings suggest that the relationship between potentially traumatic events exposure and self-reported mental and physical health symptoms could be partially explained through greater shame (Hypothesis 4b).

This study examines various health outcomes related to interpersonal and impersonal forms of potentially traumatic events among LGBTQ individuals. LGBTQ individuals with a higher likelihood of exposure to interpersonal as well as impersonal potentially traumatic events reported greater self-reported depression symptoms (Hypothesis 1b), PTSD symptoms (Hypothesis 1c), chronic health conditions (Hypothesis 1e), and somatic symptoms (Hypothesis 1g). In addition, those with a higher likelihood of exposure to impersonal potentially traumatic events also reported greater substance use (Hypothesis 1d) and sexual risk behavior (Hypothesis 1f), findings similar to previous research (Mimiaga et al., 2009). Consistent with previous studies, our findings document concomitant mental and physical health issues among LGBTQ individuals with interpersonal forms of potentially traumatic events exposure (e.g., sexual assault; Fowler et al., 2013; La Bash & Papa, 2014; Shipherd et al., 2011). In addition, these results expand on previous studies by documenting

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the link between impersonal traumatic events (e.g., natural disasters) and substance use and sexual risk behavior among LGBTQ individuals.

LGBTQ people of color reported greater exposure to interpersonal potentially traumatic events and shame than White LGBTQ individuals (Hypothesis 3a). Some scholars note the "triple jeopardy" that many LGBTQ people of color face: racism from White LGBTQ communities, cissexism and heterosexism within communities of color, and interpersonal abuse driven by sexism (Bowleg, 2008; Wisconsin Coalition against Domestic Violence, 2014). Clinical intervention approaches should consider the intersection of multiple marginalized identities when serving LGBTQ individuals with potentially traumatic events exposure. Among this sample, most participants reported sexual assault during childhood and adulthood (e.g., molestation, rape) and childhood emotional abuse.

TGNC individuals reported greater interpersonal and impersonal potentially traumatic events exposure and somatic symptoms than cisgender men and women, as well as greater depression symptoms, PTSD symptoms, and lower SES than cisgender women (Hypothesis 3c). Although rates of victimization among TGNC samples are rarely reported in the literature, these findings do map on to previous studies. For example, one study documented that 27.0% of TGNC individuals reported violence exposure (Lombardi, Wilchins, Priesing, & Malouf, 2002), and another documented associations between interpersonal trauma and discrimination related to a marginalized gender identity and mental health risk (House, Van Horn, Coppeans, & Stepleman, 2011). Results from the current study also substantiate previous literature documenting that TGNC individuals disproportionately face poverty and service barriers, all of which contribute to their increased risk for violence and associated health consequences compared with cisgender individuals (Shipherd et al., 2011; Wisconsin Coalition against Domestic Violence, 2014). Systematic examination of the interaction between minority stress, trauma, and poverty, as well as its effect on well-being among TGNC individuals, remains critical to address in future research. Further, participants reported a higher likelihood of exposure to interpersonal (e.g., childhood sexual abuse) than impersonal potentially traumatic events (e.g., having been in a life-threatening accident; Hypothesis 3d). These findings map on to previous studies suggesting that LGBTQ individuals are at heightened risk of being victimized by close relationships (e.g., parents, peers; Austin et al., 2008).

The Mediating Role of Shame

Feelings of shame following traumatic events can be additive and long lasting (Lee, Scragg, & Turner 2001). In the current study, potentially traumatic events exposure was directly associated with greater shame in the overall latent model, and interpersonal forms of potentially traumatic events were more strongly related to greater shame than impersonal forms of potentially traumatic events (Hypothesis 1a). These findings expand on previous research suggesting that many LGBTQ individuals not only experience heightened levels of shame as a result of minority stress (Newcomb & Mustanski, 2010) but also in relation to potentially traumatic events exposure. Previous studies have demonstrated that shame is prevalent among LGBTQ individuals with exposure to interpersonal violence in part because shame is characterized by feelings of inferiority and powerlessness that are connected to

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social ostracism of the traumatic event as well as their stigmatized social status (Mohr & Fassinger, 2006). Taken together, these findings underscore the need for health care providers to sufficiently address pervasive negative core beliefs that are related to LGBTQ individuals' marginalized identity in addition to traumatic events experienced by this community.

Although shame may be useful in preventing future interpersonal violence by triggering self-monitoring behaviors (Cunha et al., 2012), it is associated with negative health consequences (Dickerson et al., 2004). Congruent with the bivariate results, in the overall latent model, potentially traumatic events exposure was directly related to worse mental and physical health symptoms (Hypothesis 4a). Shame partially mediated the relationship between potentially traumatic events exposure and mental and physical health symptoms (Hypothesis 4b). At the bivariate level, greater shame was associated with greater depression symptoms (Hypothesis 2a) and PTSD symptoms (Hypothesis 2b), substance use (Hypothesis 2c), sexual risk behavior (Hypothesis 2e), and somatic symptoms (Hypothesis 2f). Consistent with previous research, these findings suggest that repeated exposure to evaluative and rejecting conditions is connected to worse psychological and physical health issues (Kennedy et al., 2012), especially among LGBTQ individuals who also contend with a devalued social identity (Major & O'Brien, 2005). Given that shame partially mediated the relationship between exposure to potentially traumatic events and mental and physical health symptoms, future research should examine cultural, cognitive, affective, and psychobiological patterns that could be associated with shame to better elucidate this connection among LGBTQ individuals.

Limitations

Although these findings advance research on relationship between potentially traumatic events exposure and self-reported mental and physical health symptoms through shame among LGBTQ individuals, there are limitations to consider. The data were cross-sectional, which limits the interpretation of causality. In addition, the sample was predominantly young adults who identified as White; thus, the study's generalizability to older LGBTQ individuals and LGBTQ individuals who identify as people of color is limited. Given the limited number of participants across each LGBTQ identity, and therefore, limited statistical power to detect possible differences in model fit of our measurement or structural model, structural equation modeling analyses grouped all populations together, which prevents us from identifying the model fit across LGBTQ subgroups. Future studies addressing this sample size limitation are warranted. We also used sexual identity as a marker of sexual orientation, thus limiting our generalizability to sexual minorities who do not identify as LGBTQ, but may have same-gender sexual partners or who experience same-gender sexual attraction.

There are also several limitations with some of the measures used in this study. First, we used self-report measures of mental and physical health symptoms, which may have been influenced by social desirability bias inherent in self-report measures (Wilson et al., 2014). Future research should use more robust and multidimensional measures of these constructs. Also, some items used dichotomous response options (e.g., chronic health conditions), and

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time since last exposure to trauma was not controlled for, both of which could have limited potentially important variance. The chronic health conditions measure had moderate reliability in this study. Future research should include alternative measures of chronic health conditions when examining tested associations. Additionally, the substance use item did not assess for whether any substance was taken as prescribed by a physician. Further, we examined substances together and did not assess for levels of addiction severity or abuse for each substance. This limited our understanding of whether exposure to potentially traumatic events and shame are more strongly associated with certain substances over others. Moreover, it is unclear the extent to which mental and physical health symptoms were directly affected by shame itself (e.g., through increased cortisol), or if they developed in response to difficulty in managing intense and prolonged feelings of shame (e.g., using substances to manage feelings of negative self-worth; Dickerson & Kemeny, 2004). Also, the measure we used to assess potentially traumatic events was a broad measure of trauma exposure and thus did not assess for LGBTQ-specific forms of violence. Finally, future studies examining potentially traumatic events among LGBTQ individuals should include stigma-related stress measures to identify potential unique and overlapping effects on shame as well as physical and mental health outcomes.

Clinical, Policy, and Research Implications

Despite these limitations, this study provides several important implications for clinical practice and public policy. LGBTQ individuals with potentially traumatic events exposure may benefit from services focusing on the health sequelae of interpersonal and impersonal forms of potentially traumatic events exposure (Roberts et al., 2010). In addition, there are promising interventions that should be further explored among LGBTQ individuals and adapted to specifically address the intersection of trauma, stigma, and shame, including CBT-based interventions targeting internalized stigma (Pachankis, Hatzenbuehler, Rendina, Safren, & Parsons, 2015). Moreover, because shame reflects a health-corrosive emotion often experienced in relationships, group psychotherapy may provide opportunities for LGBTQ individuals to restore a sense of connection, thereby directly targeting shame (Mendelsohn et al., 2007). Results of this study also support the possibility that shame-inducing social contexts have negative health effects. Similarly, public policies aimed at nondiscrimination and the protection of civil rights, which disrupt the social exclusion experienced by LGBTQ individuals, could reduce stigma from the larger social context and would likely have beneficial mental and physical health effects for this population.

This study examined the association between shame and PTSD symptoms as assessed by the *DSM–IV* criteria (which does not assess specific negative cognitions and mood; American Psychiatric Association, 1991). Future research should examine this model with the *DSM–V* version of PTSD to help assess the distinct constructs of trauma- and stigma-related shame among LGBTQ individuals. Longitudinal data are also critical, as these factors may recursively predict one another over time in an increasingly detrimental process (Poteat, Scheer, & Chong, 2016). Doing so could improve intervention efforts aimed at lowering shame and improving overall well-being among this population. Additionally, future research should assess for potentially traumatic events specifically related to one's LGBTQ identity (e.g., identity-based partner victimization; Woulfe & Goodman, 2018), and whether

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these experiences relate to worse health outcomes as compared with more general forms of potentially traumatic events. Further, the knowledge that LGBTQ individuals suffer high rates of potentially traumatic events reaffirms a need for careful assessments and interventions tailored toward this population's unique experiences (Cramer, McNiel, Holley, Shumway, & Boccellari, 2012). These results support the need to better understand the nuanced association between shame and health among other marginalized communities with heightened risk for potentially traumatic events exposure.

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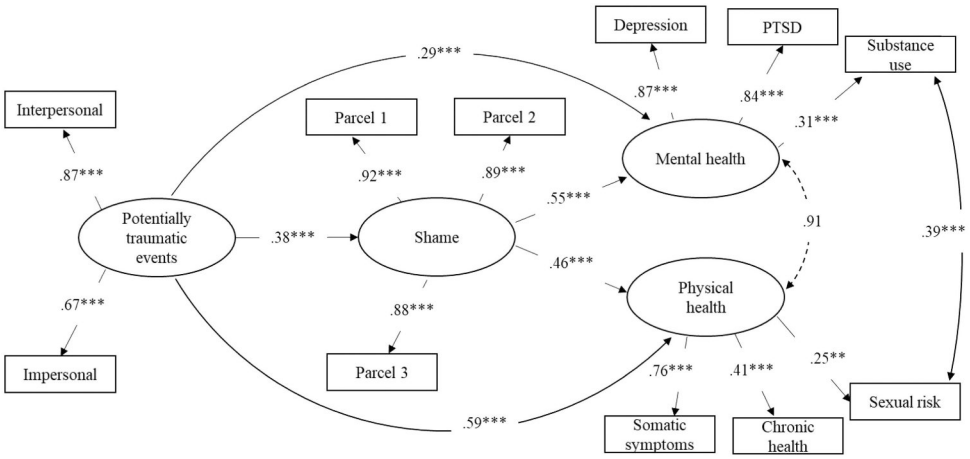

Figure 1.

Model of associations between potentially traumatic events, shame, and mental and physical health symptoms. Values are standardized coefficient estimates. Nondashed lines represent significant coefficients. The model controls for socioeconomic status and age. Interpersonal = interpersonal forms of potentially traumatic events; Impersonal = impersonal forms of potentially traumatic events; PTSD = posttraumatic stress disorder; Sexual risk = sexual risk behavior; Chronic health = chronic health conditions. * $p < .05$. ** $p < .01$. *** $p < .001$.

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Table 1

Frequencies of Demographic Variables

Variable	*N* (%)
Gender identity	
Cisgender woman	106 (48.6)
Cisgender man	25 (11.5)
Transgender or gender nonconforming	13 (39.9)
Sexual orientation identity	
Heterosexual	3 (1.4)
Lesbian	37 (17.0)
Gay	36 (16.5)
Bisexual	52 (23.9)
Pansexual	23 (10.6)
Queer	50 (22.9)
Asexual	12 (5.5)
Other	5 (2.3)
Race/ethnicity	
African American/Black	2 (0.9)
Asian/Asian American	6 (2.8)
Hispanic/Latino	7 (3.2)
Hawaiian/Pacific Islander	1 (0.5)
Native American/Alaska Native	6 (2.8)
Middle Eastern	10 (4.6)
Biracial or Multiracial	43 (19.7)
White	131 (60.1)
Other	12 (5.5)
Socioeconomic status	
I do not worry about paying for things I want and need	17 (7.8)
I can easily pay my bills but need to be careful	51 (23.4)
I can pay my regular bills, but a bill that was bigger than usual would cause hardship	95 (43.6)
I have trouble paying my regular bills	42 (19.3)
I simply can't pay my bills	13 (6.0)
Impersonal potentially traumatic events exposure	
Life-threatening illness	143 (34.4)
Life-threatening accident	76 (34.9)
Death of close person by accident	98 (45.0)
Witness another person being assaulted	78 (35.8)
Other situation where you were seriously injured	31 (14.2)
Other situation that was extremely frightening or horrifying	110 (50.5)
Interpersonal potentially traumatic events exposure	
Physical force used in a robbery or mugging	34 (15.6)
Physical abuse in childhood	103 (47.2)

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Variable	*N* (%)
Physical abuse in adulthood	108 (49.5)
Emotional abuse in childhood	151 (69.3)
Threatened with a weapon	62 (28.4)
Rape	133 (61.0)
Molestation	159 (72.9)

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Table 2

Means, Standard Deviations, and Correlations Among the Measures Used in Structural Equation Modeling

Study measures	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Interpersonal	5.03	3.06	—										
2. Impersonal	2.72	2.48	.58***	—									
3. Shame	2.40	0.60	.26***	.19**	—								
4. Depression	2.41	0.68	.36***	.22***	.56***	—							
5. PTSD	2.77	0.83	.40***	.26***	.57***	.73***	—						
6. Substance use	2.28	1.63	.17*	.25***	.21**	.25***	.30***	—					
7. Sexual risk	1.32	0.57	.10	.23***	.27***	.26***	.21**	.45***	—				
8. Chronic health	1.21	0.21	.41***	.30***	.12	.21**	.17*	.10	.08	—			
9. Somatic	2.01	0.75	.52***	.41***	.45***	.60***	.58***	.32***	.25***	.33***	—		
10. Age	27.95	9.70	.25***	.30***	−.12	−.02	.03	.06	.01	.34***	.20**	—	
11. SES	2.92	0.99	.14*	.17*	.19**	.25***	.23***	.05	−.02	.17*	.19**	.01	—

Note. Interpersonal = interpersonal forms of potentially traumatic events exposure; Impersonal = impersonal forms of potentially traumatic events exposure; Depression = self-reported depression symptoms; PTSD = self-reported posttraumatic stress disorder symptoms; Substance use = frequency of current substance use; Sexual risk = sexual risk behavior; Chronic health = chronic health conditions; Somatic = somatic symptoms; SES = socioeconomic status.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

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Table 3

Direct and Indirect Effect Estimates and Covariances in Shame Model

Specific path or covariance	Standardized estimate	*SE*	*p* value
Potentially traumatic events to:			
Shame	.38	.09	<.001
Mental health symptoms	.29	.08	<.001
Physical health symptoms	.59	.13	<.001
Shame to:			
Mental health symptoms	.55	.07	<.001
Physical health symptoms	.46	.11	<.001
Covariance between:			
Mental health, physical health	.91	.70	.19
Substance use, sexual risk behavior	.39	.07	<.001
Potentially traumatic events to mental health indirect through:			
Shame	.21 [.12, .30]	.05	
Potentially traumatic events to physical health indirect through:			
Shame	.18 [.09, .26]	.05	
Covariate paths:			
Age to shame	−.24	.07	<.001
Age to mental health symptoms	.02	.05	.72
Age to physical health symptoms	.24	.10	.02
Low SES to shame	.20	.07	.01
Low SES to mental health symptoms	.11	.07	.11
Low SES to physical health symptoms	.07	.08	.36

Note. SES = socioeconomic status. Indirect effect estimates were calculated using bias-corrected bootstrapping procedures from 1,000 samples from the original data set, with 95% confidence intervals reported in parentheses.